



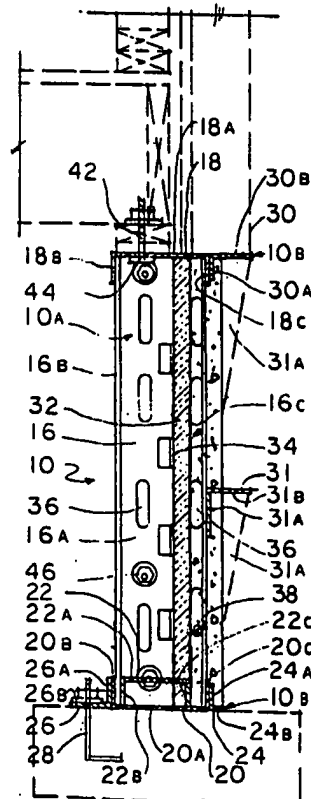
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(71)(72) Applicant and Inventor: LEBLANG, Dennis [US/US]; 22719 Bridle Trail Road, Kildeer, IL 60047 (US).		(88) Date of publication of the international search report: 14 May 1999 (14.05.99)	
(74) Agent: FOX, Sidney, N.; Suite 260, 555 Skokie Boulevard, Northbrook, IL 60062-2833 (US).			

(54) Title: SELF-CONTAINED MOLDED PRE-FABRICATED BUILDING PANEL AND METHOD OF MAKING THE SAME

**(57) Abstract**

The invention provides pre-fabricated panels (10) including a truss structure (600, 666, 700, 722, 850) and a skeletal assembly (10A) comprising an array of steel channels (16) supported between base plates (18, 20), rigid sheeting (32) proximate to the channels, support members (34) adjacent the rigid sheeting, and angles (30, 24) and a forming structure (10B) defining the skeletal assembly (10A). The skeletal assembly (A) and forming structure (10B) oriented horizontal on a planar surface. A self-hardening material introduced into the forming structure (10B). The forming structure (10B) becomes an integral part of the panel. A building truss (600) including double-angle struts (608, 610), a web-reinforcement bar (618) threaded therealong, and rigid sheeting (618). A moulding (549) and means to enable press-seating thereof in a wet concrete wall are disclosed as is a flexible brick facing (536) also pressed into a wet concrete. A water stop (101, 101') is provided for cooperation with the panels.



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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/17169

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(6) :E04H 1/00 US CL :52/24,97,234,426,562,597;249/44,45,47 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 52/24, 97, 234, 426, 562, 597; 249/44, 45, 47  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,491,947 A (KIM) 20 FEBRUARY 1996 (20/02/96), SEE ENTIRE DOCUMENT	25
X	US 4,021,989 A (HALA) 10 MAY 1977 (10/05/77), SEE ENTIRE DOCUMENT	43-44
X,P	US 5,678,361 A (BAIR) 21 OCTOBER 1997 (21/10/97), SEE ENTIRE DOCUMENT	53-54
X,P	US 5,695,443 A (BRENT ET AL) O 9 DECEMBER 1997 (09/12/97), SEE ENTIRE DOCUMENT	93-105
X,P	US 5,709,058 A (SHAW) 20 JANUARY 1998 (20/01/98), SEE ENTIRE DOCUMENT	93-105
X	US 4,622,796 A (AZIZ ET AL) O 18 NOVEMBER 1986 (19/11/86), SEE ENTIRE DOCUMENT	41-42
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* *A* *B* *L* *O* *P*	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance earlier document published on or after the international filing date document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed	*T* *X* *Y* *A* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art document member of the same patent family
Date of the actual completion of the international search 27 JANUARY 1999		Date of mailing of the international search report 08 MAR 1999
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230		Authorized officer BETH AUBREY Telephone No. (703) 308-2168

**INTERNATIONAL SEARCH REPORT**

International application No.  
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**C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,669,240 A (AMORMINO) 2 JUNE 1987 (02/06/87), SEE ENTIRE DOCUMENT	1-24,26-40, 46- 52,55-9 2

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/17169

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☒ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/17169

### BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1-40, 46-52, 55, 62-75, 79-81, 84, 86-92, AND 107, drawn to a panel.

Group II, claim(s) 53-54, drawn to a water stop.

Group III, claim(s) 41-42, drawn to a brick layer.

Group IV, claim(s) 43-45, drawn to a moulding element.

Group V, claim(s) 56-61, 76-79, and 106, drawn to a truss structure.

Group VI, claim(s) 93-105, drawn to a form.

The inventions listed as Groups I - VI do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: each of the groups are subcombinations none requiring the specifics of any of the others.